

The Galaxy Experience: **First 90 Cases**

D. Kyle Hogarth, MD

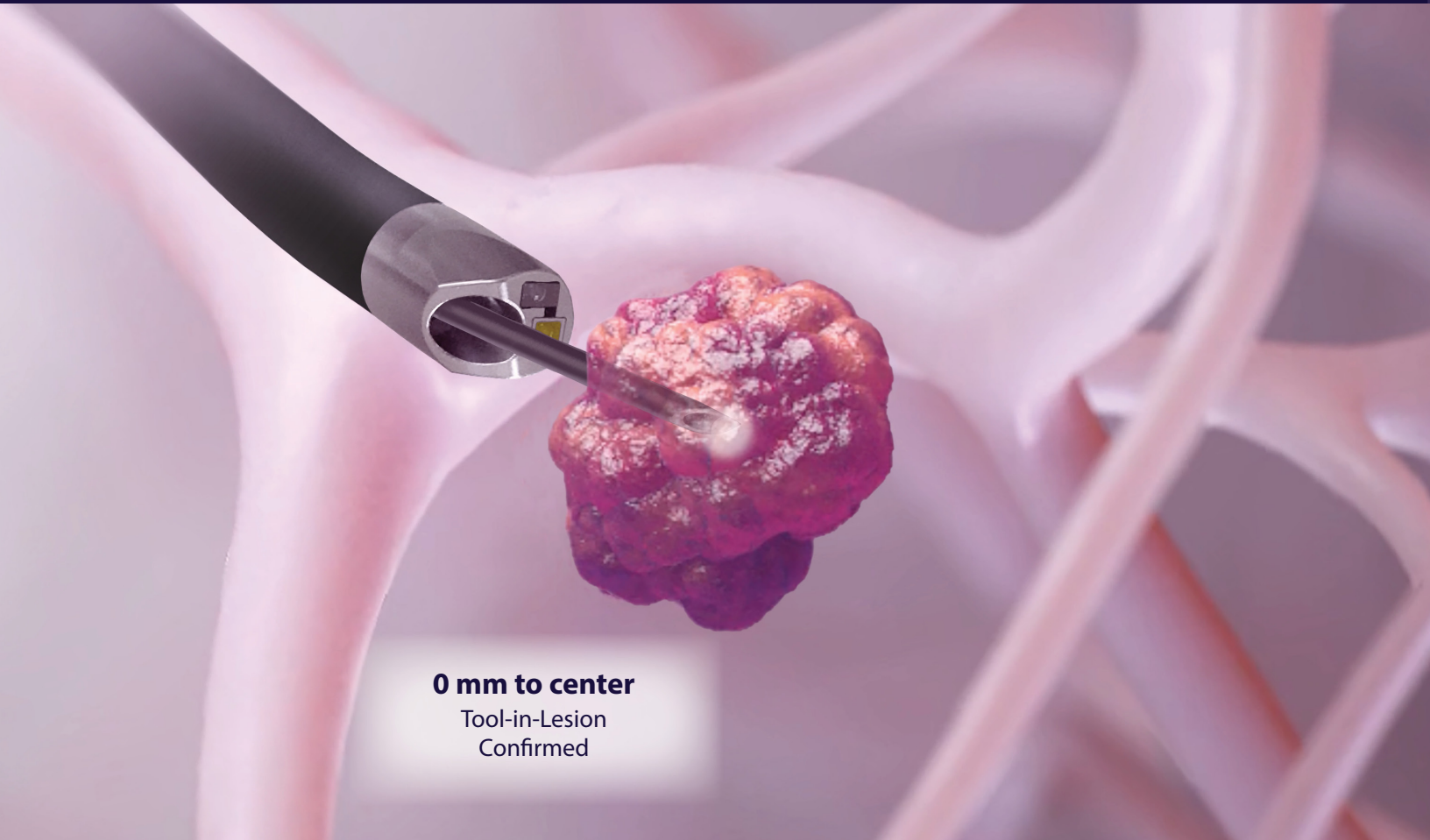




D. Kyle Hogarth, MD

Director of Bronchoscopy, Professor of Medicine, University of Chicago

Dr. Hogarth is the first Galaxy user in the United States. He is a co-director of the lung cancer screening program and established the nodule clinic at UCMC. He is a leading expert in pulmonary diseases, specializing in the treatment of lung cancer and minimally invasive diagnosis. A pioneer in the space, he has been and is currently involved in a number of studies, including NAVIGATE, FRONTIER, TARGET and MATCH.



0 mm to center
Tool-in-Lesion
Confirmed

A successful biopsy is either a diagnosis of malignancy or of specific or non-specific benign conditions that are biopsied with a confirmed tool-in-lesion.

Over 500 Lung Biopsies Annually

I perform most of my lung biopsies using robotic-assisted bronchoscopy. In the recent past, I've used the Monarch™ platform and BodyVision. I've also used Illumisite™ and the superDimension™ navigation system. However, some of the challenges I encountered with these technologies included:

- Inability to accurately reach into the lung periphery
- Failure to overcome CT-to-body divergence, particularly with small lesions
- Absence of integrated imaging
- Tedious reprocessing of scopes, adding time to room turn over between cases

I decided to start using the Galaxy System™ as I anticipated benefits in biopsying peripheral lesions that are smaller in size.

The Galaxy system has the ability to correct for CT-to-body divergence as well as confirm tool-in-lesion using tomosynthesis technology by integrating with a variety of C-arms.

It also features augmented fluoroscopy – a virtual representation, in the form of a blue circle, that overlays on the updated target, and offers confidence to the user that the correct lesion in the right location is being targeted.



Insights from **the First 90** **Galaxy System™** Procedures

110 lesions investigated in 90 patients.

LESION CHARACTERISTICS

16mm average size

81% were less than/equal to 20mm

35% were less than/equal to 10mm

16% were GGOs

65% had no bronchus sign

PROCEDURE RESULTS

46 mins* average procedure time
(Scope in – Scope out)

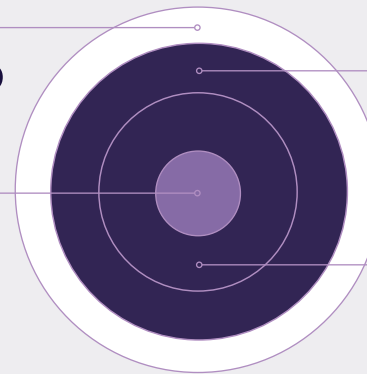
6 mins average Fluoroscopy time

36 mgy average Radiation dose

LESION LOCATION	Right	Left
Upper	36%	29%
Middle	8%	—
Lower	17%	10%

14%
Pleural

1%
Inner 1/3



74%
Outer 1/3

11%
Middle 1/3

Challenging lesions in challenging locations

Most lesions were in upper lobes, and outer 1/3

92% to 96%

Diagnostic Yield**

* Several procedures included training sessions that lengthened procedure time

** The range is explained by consideration of results from 3 cases (elaborated below):

- 2 cases resulted in Atypical cells confirmed in final pathology result and are awaiting CT & follow-up
- 1 resulted in inflammation not confirmed in final pathology but stable on CT, and is pending CT surveillance & follow-up

Case Example

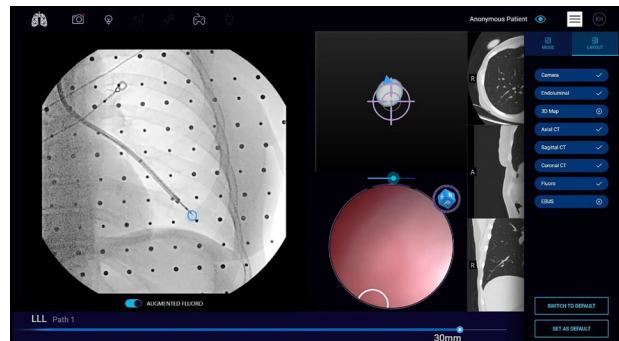
Performed in August, 2023

Presentation:

- Male patient with suspected colon cancer metastasis. Previous bronchoscopy procedure with competing technology was non-diagnostic.
- Lesion was 9 x 13mm, in the outer 1/3rd of the lung close to the pleura, in the left lower lobe (LLL). Target was marked as 9mm.
- Performed biopsy under breath hold due to lesion being in the LLL, close to the diaphragm.
- No bronchus sign seen.

Approach:

- Navigated to the LLL. Total navigation time was 70s. (Registration was only 40s).



- CT-to-body divergence observed. Tomosynthesis technology was used – with GE OEC Elite CFD and the Galaxy's integrated imaging capability (TiLT) – to correct for the divergence.
- TiLT image looked great and Tool-in-Lesion was confirmed in 3 planes on Augmented Fluoro. Time from inserting scope to start of biopsy workflow was 10 mins.

Outcome:

- Diagnosis of Adenocarcinoma was made using Galaxy on a forceps pass.
- Patient was a candidate for SBRT, so a fiducial was placed in the LLL.

For more information, please visit noahmed.com

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